There Is No Largest Prime Number

Euclid of Alexandria
euclid@irob.uni-obuda.hu

September 23, 2019
Budapest

ÓBUDA UNIVERSITY
ANTAL BEJCZY CENTER FOR
INTELLIGENT ROBOTICS

Outline

1. Newest results of Euclid:
   There Is No Largest Prime Number

2. Examples for figures/mathematical formulas

3. How to manipulate vertical spaces

4. How to create a printable/annotate handout from the presentation

5. Example for animations

6. Language options

7. "Thank you for attention!" frame

There Is No Largest Prime Number
The proof uses *reductio ad absurdum*.

Theorem: No largest prime number
There is no largest prime number.

1. Suppose p were the largest prime number.

THEOREM: NO LARGEST PRIME NUMBER

There is no largest prime number.

1. Suppose p were the largest prime number.
2. Let q be the product of the first p numbers.

THEOREM: NO LARGEST PRIME NUMBER

There is no largest prime number.

1. Suppose p were the largest prime number.
2. Let q be the product of the first p numbers.
3. Then $q + 1$ is not divisible by any of them.

THERE IS NO LARGEST PRIME NUMBER
THE PROOF USES *reductio ad absurdum.*

ŌE | ✋

THEOREM: NO LARGEST PRIME NUMBER

There is no largest prime number.

1. Suppose p were the largest prime number.
2. Let q be the product of the first p numbers.
3. Then $q + 1$ is not divisible by any of them.
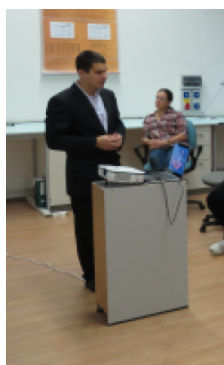4. But $q + 1$ is greater than 1, thus divisible by some prime number not in the first p numbers.

EXAMPLE FOR SIMPLE FIGURE

FIGURE: Example for simple figure

EXAMPLE FOR WRAPFIGURE WITHOUT CAPTION

The ABC Center for Intelligent Robotics is devoted to promote the scientific and technological advancement of robotics, primarily for service applications.

The ABC Center for Intelligent Robotics was created as a primary reply to the rising demand of integrated education and application-oriented development in robotics. It is an independent platform within the Óbuda University, extensively relying on a national and international network of key partner institutions and companies in Europe and North America, predominantly.

EXAMPLE FOR SUBFIGURES

(a) Subfigure 1 caption

(b) Subfigure 2 caption

(c) Subfigure 3 caption

FIGURE: Global figure caption

A "multline":

$$1 + 1 +$$

$$1 + 1 + 1 = 5 \quad (1)$$

An "align*":

$$1 = 1$$
$$1 + 1 = 2$$
$$1 + 1 + 1 = 3$$

An "equation*" in a "block"

PRODUCT

It is easy to see that

$$\sum_{n=1}^{N} 1 = N$$

Previous environments are defined with much space before/after them. It can be avoided by using inline equations via $ $,
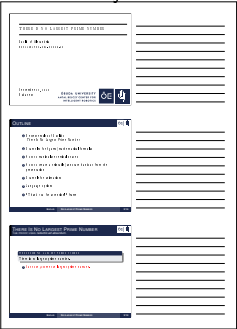
or commands like \vspace{-2mm}.

(With positive arguments the space can be increased.)

By applying "handout" optional argument as
"\documentclass[handout]beamer":
the "\pause" comments will not be taken into account

You can also create a printable form, where three frames are placed into one A4 page by using the command "\threeframeslayout"

(In this case, the
"thankyouforattentionframe" is omitted
to save paper.)

It is recommended to use it with the
 [handout] option, the result is depicted
on the right side

EXAMPLE FOR ANIMATION

The animate package provides opportunity to embed animation into the pdf presentation as

(Animation omitted - position is not set!)

For more details, see its documentation:
http://mirrors.nxthost.com/ctan/macros/latex/contrib/animate/animate.pdf.

ANIMATION COMPATIBLE WITH THE THREEFRAMESLAYOUT

A modified animate package is included, that support the threeframeslayout option, if you declare where the animation must be placed: 'top','center' or 'bottom'
The previous animation does not appear in the annotable output, but the next one will be placed appropriately:

The BARK logo and the footline appear automatically only if there is frametitle defined.

If it is not defined the \showfootline and \showlogo commands can be used to show them – if they are needed – as in this frame.

The footline shows the so called shorttitle and shortauthor if they are given (as \title[A shorttitle]{A title}, \author[Shortauthors]{Authors}) or the title / author if they are not (as \title{A title}, \author{Authors}).

The font type of titles on the titleframe can be set by applying command: \resettitlefonttype{cmss}

The font type of title/author/framenumber on normal frames can be set with the command: \resetframetitlefonttype{cmss}

For more details about available latex fontfamilies, see https://www.sharelatex.com/learn/Font_typefaces (E.g.: phv/cmss/lmbh...)

LANGUAGE OPTIONS

By using \usepackage[magyar]{babel} the logos, date format and thanks appear in hungarian,

by applying other options, as \usepackage[english]{babel} they are in english.

Finally the next dia shows the result of the defined \thankyouforattentionframe{The research was supported by...} command.